

Serial No. 09/996,713  
Amdt Dated July 31, 2006  
Reply to Office Action of May 3, 2006

Docket No. P-0289

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A mobile terminal, comprising:
  - a codec configured to perform a converting operation between analogue voice data and digital voice data;
  - a camera module configured to perform a converting operation between analogue image data and digital image data;
  - a direction sensor configured to detect compass orientation direction data associated with a photographing object;
  - a voice/image communication apparatus configured to multiplex or demultiplex the direction data and at least one of converted voice ~~and or~~ image data;
  - a transceiver configured to transmit and receive multiplexed data from the voice/image communication apparatus;

a display module configured to display demultiplexed image and direction data from the voice/image communication apparatus, wherein the direction data is displayed in the image which is captured by the apparatus and displayed by the display module;

a speaker configured to output voice data demultiplexed by the voice/image communication apparatus; and

a control unit configured to control each unit.

2. (Previously Presented) The apparatus of claim 1, wherein the direction sensor detects the compass orientation direction data associated with a photographing object, which is substantially identical to a photographing direction of a camera.

3. (Currently Amended) The apparatus of claim 1, wherein the voice/image communication apparatus comprises:

a multiplexing processing unit configured to multiplex or demultiplex direction data and at least one of converted voice ~~and~~or image data to display multiplexed image and direction data on the display module;

a voice encoding processing unit configured to encode voice data input from the codec or convert voice data transmitted from the multiplexing processing unit into data for transmitting to a speaker;

an image encoding processing unit configured to encode image data input from the camera module or convert image data transmitted from the multiplexing processing unit into data for displaying on the display module; and

a direction displaying processing unit configured to encode direction data input from the A/D converter or convert direction data transmitted from the multiplexing processing unit into data for displaying on the display module.

4. (Previously Presented) The apparatus of claim 3, wherein the direction displaying processing unit calculates a compass orientation direction and encodes the calculated compass orientation direction by formatting the calculated compass orientation direction into a binary value.

5. (Previously Presented) The apparatus of claim 3, wherein the direction displaying processing unit displays the direction data in a direction displaying area at one side of a screen of the display module.

6. (Previously Presented) The apparatus of claim 3, wherein the direction displaying processing unit displays the direction data as a direction on a screen of the display module.

7. (Previously Presented) The apparatus of claim 3, wherein the direction displaying processing unit displays the direction data as a direction on a screen of the display module in the form of a compass.

8. (Previously Presented) The apparatus of claim 3, wherein the multiplexing processing unit multiplexes encoded packet data by receiving the data from the voice encoding processing unit, image encoding processing unit, and direction displaying processing unit, and inputs the data to an image frame by forming a flag and header to distinguish the image frame.

9. (Previously Presented) The apparatus of claim 3, wherein the multiplexing processing unit is further configured to form a null data set if no data is transmitted thereto.

10. (Currently Amended) A method for displaying image data direction of a terminal, comprising:

receiving image data;

demultiplexing the image data and separating the image data into at least one of image, voice, ~~and or~~ compass orientation direction data; and

displaying the separated image and compass orientation direction data on a screen of a display, wherein the compass orientation data is displayed within the image on the screen of the display.

11. (Previously Presented) The method of claim 10, wherein the multiplexing processing unit checks the received image data and forms a null data set if the image data is not separable.

12. (Previously Presented) The method of claim 10, wherein displaying separated image and compass orientation direction data further comprises:

detecting the demultiplexed image data and compass orientation direction data and transmitting said detected data to an image encoding processing unit and a direction displaying processing unit, respectively;

checking the transmitted demultiplexed data for a direction displaying mode from the direction displaying processing unit;

determining a position and a method for displaying the image and compass orientation direction data on the screen of the display from the direction displaying processing unit if the direction displaying mode is set; and

displaying the image and compass orientation direction data on the screen of the display in the determined position and determined method.

13. (Previously Presented) The method of claim 12, wherein image data read from a voice/image communication apparatus is displayed on the screen of the display if the direction displaying mode is not set in the direction displaying processing unit.

14. (Previously Presented) The method of claim 12, wherein the direction displaying processing unit displays the compass orientation direction data in a direction displaying area at one side of the screen of the display.

15. (Previously Presented) The method of claim 12, wherein the direction displaying processing unit displays the compass orientation direction data as a direction on the screen of the display.

16. (Previously Presented) The method of claim 12, wherein the direction displaying processing unit displays the compass orientation direction data as a direction on the screen of the display in the form of a compass.

17. (Previously Presented) The method of claim 12, wherein the displaying comprises a transmitted stop image.

18. (Previously Presented) The method of claim 12, further comprising displaying time and date information with the image and compass orientation direction data on the screen of the display.

19. (Previously Presented) A method for displaying image and direction data, comprising:

formatting analogue compass orientation direction data into a binary value and encoding said binary value;

multiplexing the encoded compass orientation direction data binary value together with image and voice data forming an image frame; and

transmitting the image frame to a base station, wherein the image frame includes the compass orientation direction data as part of the image to be displayed.

20. (Previously Presented) The method of claim 19, wherein multiplexing the encoded compass orientation direction data, image data, and voice data comprises:

receiving packetized voice data through a voice encoding processing unit;  
receiving packetized image data through an image encoding processing unit;  
multiplexing the received packetized voice and image data and the encoded  
compass orientation direction data as an image frame; and  
generating and inserting flag and header information into the image frame.

21. (Previously Presented) The method of claim 19, wherein a compass orientation direction of a photographing object is calculated by formatting calculated compass orientation direction data, and wherein the data is encoded into an image packet while formatting the compass orientation direction data.

22. (Previously Presented) The method of claim 21, wherein the direction data is formatted to display one byte of information.

23. (Previously Presented) The method of claim 19, wherein a null data set is formed in the multiplexing step if data is not transmitted to the base station.

24. (Previously Presented) The apparatus of claim 1, wherein the display module is a liquid crystal display.



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25. (Previously Presented) The method of claim 10, wherein the display is a liquid crystal display.